

Radford Army Ammunition Plant
4050 Pepper's Ferry Road, P.O. Box 1
Radford, VA 24143
Telephone: 540-639-8766

8 December 2014

Kevin Harlow
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

Subject: Request for an alternate schedule for completion of the 40 CFR Part 122.21(r) application requirements -
VPDES permit # VA0000248

Dear Mr. Harlow:

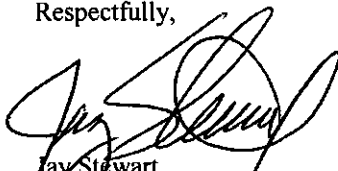
The U.S Army (owner) and BAE Systems, Ordnance Systems Inc. (operator) of the Radford Army Ammunition Plant requests an alternate schedule for completion of the 40 CFR Part 122.21(r) application requirements which became effective on October 14, 2014.

The Radford Army Ammunition Plant VPDES permit renewal application was submitted to DEQ on November 19, 2014. The application is due to DEQ by December 11, 2014. Our application due date did not allow sufficient time to complete the extensive application requirements under the new rules.

Please find attached the completed 316(b) facility questionnaire and a written description of our intake structure, screen, and cleaning mechanism as requested by e-mail dated 11/19/2014.

If you have any questions or comments, please contact Nikki Herschler at (540) 639-8766 or Nichole.Herschler@baesystems.com.

Respectfully,


Jay Stewart
Environmental Manager



Coordination with RFAAP Staff:


Brad Jennings

cc: RFAAP ACO Staff/ Jennings
File

FedEx tracking # 7721 0567 8110

14-0900-157
N-Herschler

Virginia Department of Environmental Quality (DEQ)
Facility Status Questionnaire
Clean Water Act §316(b)
Cooling Water Intake Structures

Owner/Permittee Name: U.S. Army (owner), BAE Systems, Ordnance Systems Inc. (operator)
Name of Facility: Radford Army Ammunition Plant
VPDES Permit Number: VA0000248

1. Does your industrial process involve operation of a cooling system?
☒ Yes (Continue to next question)
☐ No (Stop, no further responses are necessary)
☐ Don't know (Continue)

2. Does the cooling system use water for cooling purposes?
☒ Yes (Continue to next question)
☐ No (Stop, no further responses are necessary)
☐ Don't know (Continue)

3. Do you obtain any portion or all of the water used at your facility from one or more intake structures located in a river, stream, canal, lake, estuary or other surface water source that are operated either by your facility or an independent supplier (i.e. not a public water supply)?
☒ Yes
Name of the waterbody source(s): New River New River
Latitude/Longitude location: Lat: 37.183 Long: -80.559 Lat: 37.183 Long: -80.560
(Continue to next question)
☐ No (Stop, no further responses are necessary)
☐ Don't know (Continue)

4. Are the water withdrawals from the intake structure reported annually to the DEQ under the "Water Withdrawal Reporting" Regulation (9VAC 25-200)?
☒ Yes. Userid# 2716
☐ No
☐ Don't know

5. If you were to sum the maximum amount of water that each intake structures is designed or capable of withdrawing, would the total sum be greater than two million gallons of water per day (2 MGD)?
☒ Yes
☐ No
☐ Don't know

6. Over the past three years, has your facility withdrawn more than an average of 125 million gallons of water per day?
☐ Yes
☒ No
☐ Don't know



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7. Does your facility use 25% or more of the total water withdrawn exclusively for cooling purposes?

- ☒ Yes
☐ No
☐ Don't know

8. Does your facility currently employ any of the following measures to reduce impingement mortality and entrainment? (Check all that may apply):

- ☒ Closed-cycle re-circulating cooling water system
☒ Variable speed pumps
☐ Seasonal flow reductions
☐ Wastewater reclamation/reuse
☐ Intakes with maximum design through-screen velocities of 0.5 feet per second, or less
☐ Intakes with actual through-screen velocities operated at 0.5 feet per second, or less
☐ Existing offshore velocity caps
☐ Modified traveling screens
☒ Intake screen mesh materials with maximum opening sizes of 0.56-inch (14 millimeters), or less
☐ Cylindrical wedgewire screens
☐ Barrier nets
☐ Aquatic Filter Barriers
☒ Other 407 intake screen has approx. 0.5 inch openings, 408 intake screen has approx. 0.6 inch openings

9. Within the next 5-10 years, does your facility plan to employ or install any of the following measures to reduce impingement mortality and entrainment? (Check all that may apply):

- ☒ Closed-cycle re-circulating cooling water system
☐ Variable speed pumps
☐ Seasonal flow reductions
☐ Wastewater reclamation/reuse
☐ Intakes with maximum design through-screen velocities of 0.5 feet per second, or less
☐ Intakes with actual through-screen velocities operated at 0.5 feet per second, or less
☐ Existing offshore velocity caps
☐ Modified traveling screens
☐ Intake screen mesh materials with maximum opening sizes of 0.56-inch (14 millimeters), or less
☐ Cylindrical wedgewire screens
☐ Barrier nets
☐ Aquatic Filter Barriers
☐ Other _____

10. Has your facility previously completed any studies relating to impingement mortality and/or entrainment at the cooling water intake structure?

- ☐ Yes. Date(s) of studies: _____
☒ No.

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11. Do you anticipate adding any new cooling systems at your facility in the next 5 years?

- ☒ Yes
☐ No
☐ Don't know

12. What is your current status in compiling the following information pursuant to 40 CFR §122.21(r)?

	Completed	Initiated	Not Yet Begun	Other
(r)(2) Source water physical data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(3) Cooling water intake structure data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(4) Source water baseline biological characterization data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(5) Cooling water system data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(6) Chosen Method of Compliance with Impingement Mortality Standard	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(7) Previous Entrainment Performance Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(r)(8) Operational Status	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For Facilities withdrawing more than 150 MGD:

	Completed	Initiated	Not Yet Begun	Other
(r)(9) Entrainment Characterization Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(r)(10) Comprehensive Technical Feasibility and Cost Evaluation Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(r)(11) Benefits Valuation Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(r)(12) Non-water Quality Environmental and Other Impacts Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(r)(13) Peer Review of (r)(10), (11) and (12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

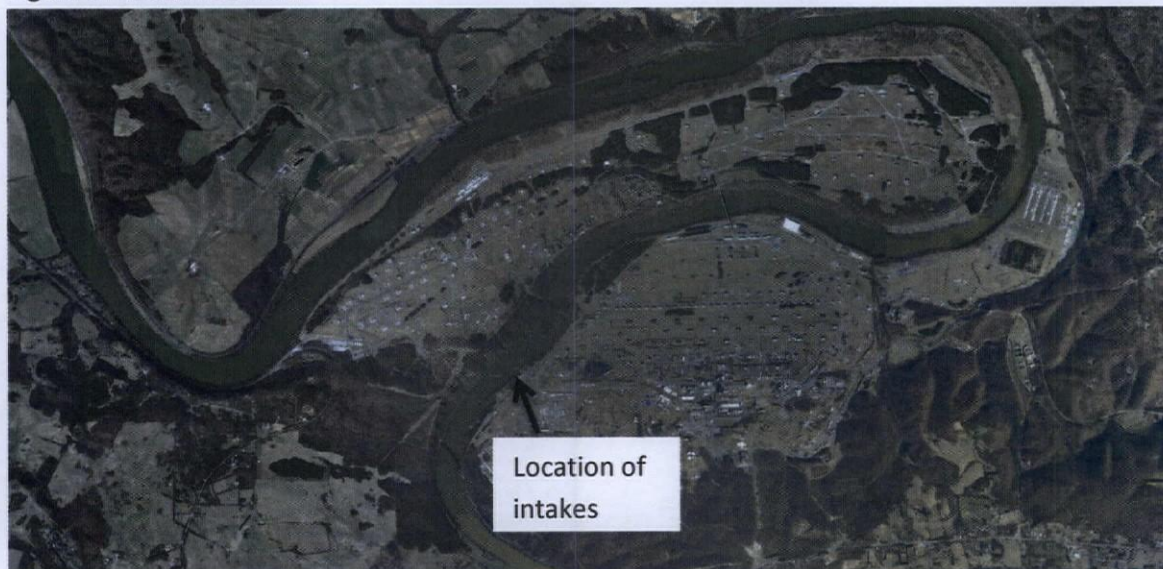
Description of Radford Army Ammunition Plant Water Intake Structures

Date: 12/05/2014

Re: Supporting documentation for request for alternate schedule for completion of 40 CFR Part 122.21(r) application requirements - VPDES permit # VA0000248 - BAE letter 14-0900-157

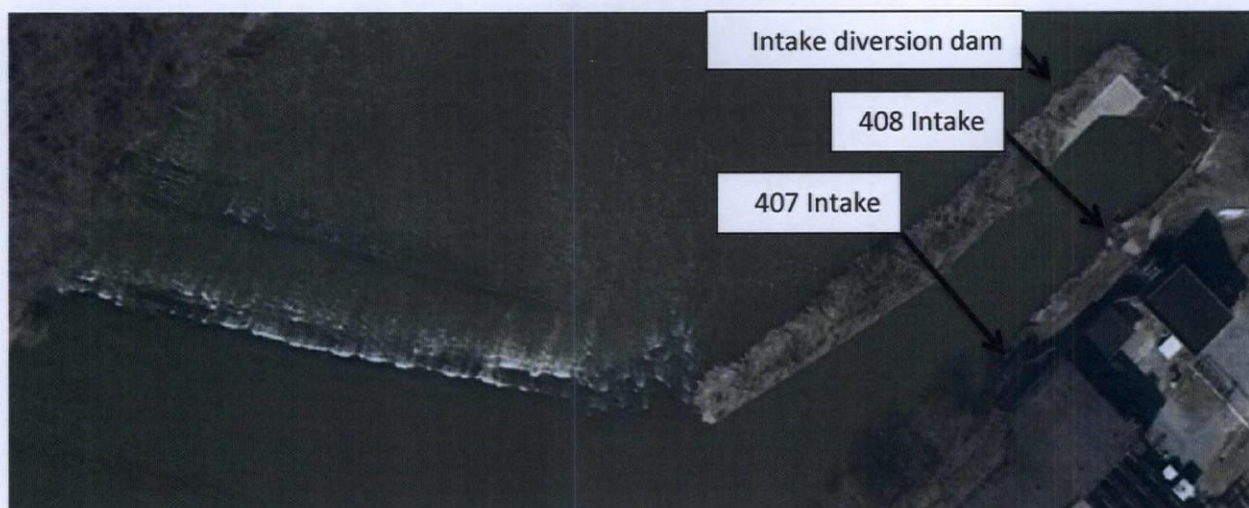
The Radford Army Ammunition Plant has two raw water intakes on the New River. The location of the main intake at Building 408 is 37.183, -80.559. The location of the second intake located at building 407 is 37.183, -80.560.

Figure 1. Intake location.



As shown in the diagram below, a diversion dam is constructed in the New River around the intake locations. At normal river level, the down stream discharge from the diversion dam consists of two valves leading to 24 inch diameter pipes extending through the downstream wall of the dam. The valves are normally in the open position. When the river level is elevated, water can overflow the dam wall.

Figure 2. Details of river intakes.



Intake at Building 408:

In 2013 an average of 18.07 million gallons/day of water was withdrawn from the River at the Bldg 408 intake. The 408 intake is a concrete structure which is 11 feet 2 inch wide. A slanted bar screen with vertical bars spaced approximately 1.5 inches apart is located at the opening. The bar screen is cleaned manually using a rake twice per 8 hour shift or as needed. After the vertical bar screen, water passes through a traveling bar screen (width = 10 feet) with approximately 0.6 inch square openings. The traveling bar screen is normally stationary and is activated for cleaning twice per 8 hour shift or as needed. Activation normally lasts approximately 15 minutes. Spray water cleans the screen and deposits the screenings in a trough. Water washes the screenings to the downstream side of the diversion dam. Following the traveling bar screen, the river water is pumped to the water treatment plant for processing or use.

Intake at Building 407:

In 2013 an average of 0.59 million gallons/day of water was withdrawn from the River at the Bldg 407 intake. The 407 intake is a concrete structure with two slanted bar screens of 9 feet 10.5 inch width each (the total intake width equals 19 feet 9 inches). The bar screens have vertical bars with approximately 1 inch spacing between bars. The bar screens are cleaned manually using a rake twice per 8 hour shift or as needed. Following the vertical bar screens, water passes through one of two side-by-side traveling bar screens (width = 7 feet) with approximately 0.5 inch square openings. The traveling mechanism of one screen is currently in-operable but the other screen is activated for cleaning twice per 8 hour shift or as needed. Activation normally lasts for approximately 15 minutes. Spray water cleans the screen and deposits the screenings in a trough. Water washes the screenings to the downstream side of the diversion dam. Following the traveling bar screen, the river water is pumped to a water storage tank prior to use.